

AMENDMENTS TO THE CLAIMS

1-14. (Cancelled)

15. (Currently amended) A coating material for coating facades and other building surfaces with a self-cleaning and self-regenerating surface, the coating material comprising:

a binding agent ~~comprising silicone or silicate~~ in an amount of about 10 to about 30 weight percent of the coating material, the binding agent comprising silicone or silicate;

at least one filler in an amount of about 2 to about 30 weight percent of the coating material, the at least one filler including particles having a size and/or a surface roughness of about 10 µm or less; ~~and~~

a photocatalytically active agent in an amount of about 2 to about 15 weight percent of the coating material; and

the coating material further comprising between about 0.1 and about 1 weight percent of a thickener; between about 5 and about 30 weight percent of another filler; between about 10 and about 20 weight percent of a pigment; between about 2 and about 8 weight percent of hydrophobization agent; about 4 weight percent or less of a solvent; about 0.8 weight percent or less of a preservative; and about 35 weight percent or less of water;

wherein the binding agent is capable of decomposing due at least in part by a photocatalytic action of the photocatalytically active agent to form a microstructured, self-cleaning surface that photocatalytically reduces by about 0.1 µm or more per year in response to external weathering as per Deutsches Institut für Normung e.V. Europäische

Norm International Organization for Standardization (DIN EN ISO) 2810, the decomposition being equivalent to chalking level 1 or less as per DIN EN ISO 4628-6.

16. (Previously Presented) The coating material of claim 15, wherein the microstructured, self-cleaning surface photocatalytically reduces by about 1 μm or more per year in response to external weathering as per DIN EN ISO 2810 (when sample is vertical and face of sample is oriented in direction of equator).

17. (Previously Presented) The coating material of claim 15, wherein the binding agent is at least partially photocatalytically degradable and the photocatalytically active agent comprises at least one photocatalytically active metal oxide.

18. (Previously Presented) The coating material of claim 15, wherein the binding agent comprises a nano-composite material including one or more of an aqueous polymer dispersion capable of being redispersed in water, a hydrophobic resin, and a preliminary resin product.

19. (Cancelled)

20. (Previously Presented) The coating material of claim 15, wherein the photocatalytically active agent includes one or more oxides of titanium, zinc, iron, manganese, molybdenum, and tungsten.

21. (Previously Presented) The coating material of claim 20, wherein the photocatalytically active agent includes about 60 weight percent or more of the one or more oxides, relative to a total weight of the photocatalytically active agent.

22. (Previously Presented) The coating material of claim 21, wherein the photocatalytically active agent includes about 80 weight percent or more of the one or more oxides, relative to a total weight of the photocatalytically active agent.
23. (Previously Presented) The coating material of claim 22, wherein the photocatalytically active agent includes about 90 weight percent or more of the one or more oxides, relative to a total weight of the photocatalytically active agent.
24. (Previously Presented) The coating material of claim 15, wherein the photocatalytically active agent comprises at least one additive selected from the group consisting of C, N, S, oxides of Pt, Rh, Mn, Cr, Ru, Ni, Pd, Fe, Co, Ir, Cu, Mo, Zr, Re, Ag, and Au, and halogenides of Pt, Rh, Mn, Cr, Ru, Ni, Pd, Fe, Co, Ir, Cu, Mo, Zr, Re, Ag, and Au.
25. (Previously Presented) The coating material of claim 24, wherein the photocatalytically active agent includes about 40 weight percent or less of the at least one additive, relative to a total weight of the photocatalytically active agent.
26. (Previously Presented) The coating material of claim 25, wherein the photocatalytically active agent includes about 20 weight percent or less of the at least one additive, relative to a total weight of the photocatalytically active agent.
27. (Previously Presented) The coating material of claim 26, wherein the photocatalytically active agent includes between about 10 weight percent and about 1

weight percent of the at least one additive, relative to a total weight of the photocatalytically active agent.

28. (Previously Presented) The coating material of claim 27, wherein the photocatalytically active agent includes about 2.5 weight percent or more of at least one additive, relative to a total weight of the photocatalytically active agent.

29. (Previously Presented) The coating material of claim 28, wherein the photocatalytically active agent includes about 5 weight percent or more of the at least one additive, relative to a total weight of the photocatalytically active agent.

30. (Previously Presented) The coating material of claim 15, wherein the photocatalytically active agent comprises titanium dioxide in a form selected from the group consisting of amorphous form, partially crystalline form, and anatase form.

31. (Previously Presented) The coating material of claim 15, wherein the particles have a size and/or a surface roughness of about 1 μm or less.

32. (Previously Presented) The coating material of claim 31, wherein the particles have a size and/or a surface roughness of about 0.1 μm or less.

33. (Previously Presented) The coating material of claim 32, wherein the at least one filler includes one or more nano-fillers in the form of a highly-disperse silica.

34. (Previously Presented) The coating material of claim 33, wherein the highly-disperse silica consists of a silica gel.

35. (Previously Presented) The coating material of claim 34, wherein the silica gel is formed by precipitation using a sol gel process.

36. (Previously Presented) The coating material of claim 15, wherein the at least one filler includes a monomodal particle size distribution having a mean particle diameter of about 10 μm or less.

37. (Previously Presented) The coating material of claim 36, wherein the at least one filler includes a monomodal particle size distribution having a mean particle diameter of about 1 μm or less.

38. (Previously Presented) The coating material of claim 37, wherein the at least one filler includes a monomodal particle size distribution having a mean particle diameter of about 0.1 μm or less.

39. (Currently amended) The coating material of claim 15, further comprising an excess of binding agent filler.

40. (Previously Presented) The coating material of claim 15, further comprising a selected one or more of a pigment, an accelerator, and a retarder.

41. (Currently amended) The coating material of claim 15, further comprising a pigment distributor, a thickener, another filler, a pigment, a hydrophobization agent, a preservative, and water.

42-48. (Cancelled)

49. (Previously presented) The coating material of claim 15, comprising about 20 weight percent of the binding agent and/or between about 5 and about 15 weight percent of the filler and/or between about 3 and about 8 weight percent of the photocatalytically active agent.